

## **Amendments to the Specification:**

*On page 1, after the title, insert the following:*

### **CROSS-REFERENCE TO RELATED APPLICATION**

This application is the U.S. national phase of PCT Appln. No. PCT/EP2004/013137 filed November 18, 2004, which claims priority to German application 103 54 259.0 filed November 20, 2003.

### **BACKGROUND OF THE INVENTION**

#### **1. Field of the Invention**

*On page 1, before the paragraph beginning on line 8, please add the following:*

#### **2. Description of the Related Art**

*On page 3, after line 6, please insert the following heading:*

### **SUMMARY OF THE INVENTION**

*On page 3, line 7, please amend the paragraph as shown below:*

It was [[the]] an object of the invention to provide an economical and selective method for producing organosilicon compounds having carbonyl radicals, by means of which even organosilicon compounds having sensitive aldehyde and ketone groups can be prepared on a large scale, and which meets the continuously increasing requirements in industry with regard to space-time yield and universal applicability. These and other objects are This object is

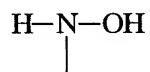
achieved by the present invention, whereby carbinol-functional organosilicon compounds are oxidized in the presence of nitrogen-containing mediators.

*On page 3, before line 17, please insert the following heading:*

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

*Please amend the paragraph beginning on page 3, at line 17 as shown below:*

The invention relates to a method for producing organosilicon compounds having carbonyl radicals by oxidation of an organosilicon compound having carbinol radicals with the aid of a mediator selected from the group consisting of the aliphatic, cycloaliphatic, heterocyclic and aromatic NO-, NOH- [[and]] or

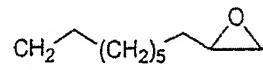
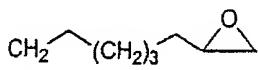
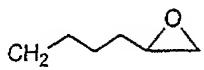
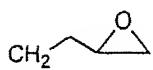
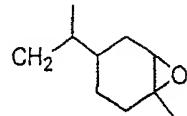
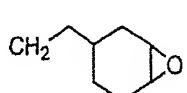
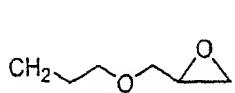


~~-containing compounds groups,~~ and [[of]] an oxidizing agent.

*Please amend the paragraph beginning on page 7, at line 12 as shown below:*

Examples of substituted radicals R are haloalkyl radicals, such as the 3,3,3-trifluoro-n-propyl radical, the 2,2,2,2',2',2'-hexafluoroisopropyl radical, and the heptafluoroisopropyl radical, and haloaryl radicals, such as the o-, m- and p-chlorophenyl radical, aminoalkyl radicals, such as the aminopropyl, aminoethylaminopropyl, cyclohexylaminopropyl, dimethylaminopropyl or diethylaminopropyl radical, and acetylated aminoalkyl radicals or aminoalkyl radicals which are alkylated by a Michael-analogous reaction with (meth)acrylic esters, hydroxy-functional radicals, such as those of primary, secondary or tertiary alcohols, such as, for example, the 3-hydroxypropyl and 4-hydroxybutyl radical, or such as the aromatic alcohols, such as, for example, the phenol or eugenol radical, mercapto-functional radicals, such as the 3-mercaptopropyl radical, carboxy-functional radicals and derivatives or salts thereof, such as the acetyl, 3-carboxypropyl, 4-carboxybutyl, 10-carboxydecyl, 3-(2,5-dioxotetrahydrofuran-2-yl)propyl, 3-(ethane-1,2-dicarboxyl)propyl, 3-acryloyloxypropyl, 3-

methacryloyloxypropyl or undecenylsilyl ester radical, epoxy-functional radicals of the group consisting of



carbonyl-functional radicals, such as the propionaldehyde radical, polyalkylene oxide polyoxyalkylene-functional radicals[[,]] such as, for example, alkylpolyalkylene oxide alkylpolyoxyalkylene radicals[[,]] such as the ethylenepolyalkylene oxide ethylenepolyoxyalkylene radical and the propylenepolyalkylene oxide propylenepolyoxyalkylene radical, phosphonato-functional radicals[[,]] such as, for example, phosphonatoalkyl radicals, silalactone-functional radicals[[,]] such as glycoside-functional radicals, such as, for example, those in which the glycoside radical, which may be composed of from 1 to 10 monosaccharide units, is linked via an alkylene or oxyalkylene spacer, as disclosed, for example, in EP-B 612 759.

*Please amend the paragraph beginning on page 8, at line 15 as shown below:*

Radicals R are preferably hydrocarbon radicals which have from 1 to 18 carbon atom(s) and are optionally substituted by halogen, hydroxyl, mercapto, amino, ammonium, carboxyl or epoxy groups, the methyl, ethyl, vinyl, n-propyl, n-octyl, n-dodecyl, n-octadecyl and phenyl radicals being particularly preferred.

*Please amend the paragraph beginning on page 8, at line 22 as shown below:*

If the organosilicon compounds according to the invention are organopolysiloxanes, at least 50%, particularly more preferably at least 90%, of all radicals R are have the meaning of methyl or phenyl radicals.

*Please amend the paragraph beginning on page 10, at line 8 as shown below:*

~~Particularly preferably, radical X is a chlorine atom, the radical A', the hydroxyl, the methoxy and the ethoxy radical, the vinyl radical, an organic radical having 1 to 18 carbon atom(s) selected from the group:~~

- ~~-aliphatic hydrocarbon radical~~
- ~~-aromatic, optionally substituted hydrocarbon radical~~
- ~~-carbinol-functional radical~~
- ~~-carboxy- or anhydride-functional radical~~
- ~~-epoxy-functional radical~~
- ~~-amidated amino-functional radical~~
- ~~-hydrocarbon radical having a quaternary nitrogen group or a radical of the general formula (V).~~

Most preferably, radical X is a chlorine atom, a radical A', a hydroxyl radical, a methoxy or ethoxy radical, a vinyl radical, an organic radical having 1 to 18 carbon atom(s) selected from: aliphatic hydrocarbon radicals, aromatic radicals, optionally substituted hydrocarbon radicals, carbinol functional radicals, carboxy- or anhydride-functional radicals, epoxy-functional radicals, amidated amino-functional radicals, and hydrocarbon radicals having a quaternary nitrogen group or a radical of the general formula (V).

*Please amend the paragraphs beginning on page 17, at line 16 and 22 as shown below:*

Preferably, at least one compound selected from the group consisting of the aliphatic, cycloaliphatic, heterocyclic or aromatic compounds which contain[[s]] at least one N-hydroxyl, oxime, nitroso, N-oxyl or N-oxy function functionality is preferably used as a mediator. Examples of such compounds are the below-mentioned compounds of the formulae (VIII) to (XLII) described below.

*Please amend the paragraph beginning on page 59, at line 17 as shown below:*

In the method according to the invention, the mediator is preferably used in amounts of from 0.01 to 100 mol%, more preferably from 0.1 to 20 mol%, particularly most preferably from 0.1 to 5 mol%, based on the molar amount of the carbinol groups present in the organosilicon compounds used.

The method according to the invention can be carried out with one or more mediators described, preferably with one or two mediators, particularly more preferably with one mediator. The mediator can be dissolved in an organic or aqueous phase or used in supported form as an independent phase.

*Please amend the paragraph beginning on page 65, at line 6 as shown below:*

If the oxidizing agents used in the method according to the invention are 2-electron oxidizing agents they are preferably used in amounts of from 0.1 to 125 mol%, more preferably from 50 to 110 mol%, particularly and most preferably from 75 to 105 mol%, based on the molar amount of the carbinol groups present in the organosilicon compounds used. If the oxidizing agents used in the method according to the invention are 1-electron oxidizing agents, they are preferably used in amounts of from 0.2 to 250 mol%, more preferably from 100 to 220 mol%, and most particularly preferably from 150 to 210 mol%, based on the molar amount of the

carbinol groups present in the organosilicon compounds used. They are preferably 2-electron oxidizing agents.

*Please amend the paragraph beginning on page 65, at line 21 as shown below:*

Among the metal oxides used as oxidizing agents, those having a solubility of less than 1 g/l in the reaction medium are preferred. Bismuth(III) oxide, iridium(III) oxide, cerium(IV) oxide, cobalt(II) oxide, cobalt(III) oxide, iron(III) oxide, manganese(IV) oxide, tin(IV) oxide, niobium(V) oxide, antimony(V) oxide, indium(III) oxide, mercury(II) oxide, lead(IV) oxide, silver(I) oxide, copper(II) oxide and palladium(II) oxide are preferred.

*Please amend the paragraph beginning on page 66, at line 1 as shown below:*

Stainless steels, tantalum, titanium, rhodium, platinum or gold are particularly preferred. Very particularly Most preferably, the electrodes consist of stainless steel, stainless steels of the group 1.4xxx (according to DIN 17850) in turn being preferred.

*Please amend the paragraph beginning on page 67, at line 9 as shown below:*

The liquid organosilicon-free phase containing the oxidizing agent is preferably an aqueous phase. The pH of the aqueous phase is preferably from 4 to 14, particularly more preferably from 6 to 12. The desired pH is preferably established by adding a buffer, e.g. sodium bicarbonate, disodium hydroxide phosphate or sodium dihydrogen phosphate or a buffer mixture or an acid, e.g. carbon dioxide, phosphoric acid, hydrochloric acid or sulfuric acid, or a base, e.g. NaOH.

*Please amend the paragraph beginning on page 67, at line 36 as shown below:*

They The additional solvents are preferably linear or branched, saturated or unsaturated aliphatic hydrocarbons having 1 to 16 carbon atoms, cyclic saturated or unsaturated aliphatic hydrocarbons having 5-16 carbon atoms, or aromatic hydrocarbons having 6-16 carbon atoms,

it being possible for one or more hydrogen atom(s), independently of one another, to be replaced by F, Cl, Br, NO<sub>2</sub> or CN, [[or]] and it being possible for one or more CH<sub>2</sub> group(s), independently of one another, to be replaced by O, NH, C=O, S, S=O, SO<sub>2</sub> or P=O, [[or]] and it being possible for one or more CH group(s), independently of one another, to be replaced by N or P, or ~~it being possible~~ for quaternary carbon atoms to be replaced by Si.

*Please amend the paragraphs beginning on page 69, at lines 13 and 18 as shown below:*

In the inventive method, ~~according to the invention~~, the reactions are preferably carried out at temperatures of from -100 to +150°C, particularly more preferably from -50 to +100°C, and in particular from -20 to +50°C. The reaction times are preferably from 0.1 seconds to 72 hours, preferably from 1 second to 24 hours, particularly more preferably from 1 second to 10 hours and very particularly most preferably from 1 second to 5 hours.

*Please amend the paragraph beginning on page 74, at line 8 as shown below:*

**Example 1:**

121 g of a 3-hydroxypropyldimethylsilyl-terminated polydimethylsiloxane having an OH content of 3.2% in 400 ml of methylene chloride, 1.90 g (11 mmol) of 4-hydroxy-TEMPO, 50 ml of saturated sodium bicarbonate solution and 2.27 g (22 mmol) of sodium bromide were cooled to -10°C, and 177 g of industrial bleaching liquor (content about 1.8 M[[,]]: a pH 9.5 was established by adding 2 N sulfuric acid) were added with vigorous stirring by means of an anchor stirrer (2000 rpm; RZR stirrer from Heidolph) and thorough cooling in the course of 200 s. A suspension-like white mixture, in which the silicone oil droplets having an average particle size of from about 100 to 150 µm were dispersed in the continuous aqueous phase, formed during this procedure. After about 5 min, the phases were separated and the organic phase containing the product was investigated analyzed by NMR spectroscopy. Yield (standard analysis): 96% of Si-bonded 2-formylethyl groups, 4% of unreacted hydroxypropyl groups.

*Please amend the paragraph beginning on page 74, at line 29 as shown below:*

**Example 1A.**

**Effect of Larger Particle Size On Yield:**

**Comparative Experiment to Example 1:**

Example 1 was repeated in an analogous manner, except that a magnetic stirrer (IKAMAG® RCT from IKA Labortechnik) with cylindrical magnetic stirring rod (L: 25 mm) was used instead of the anchor stirrer or propeller stirrer and stirring was effected at 1000 rpm. The resulting dispersion is substantially more coarse-particled and has an average particle size of the silicone oil droplets of more than 500 µm. After the product phase was separated off, the organic phase was ~~investigated~~ analyzed by NMR spectroscopy. Yield (standard analysis): 46% of Si-bonded 2-formylethyl groups, 54% of unreacted hydroxypropyl groups.

*Please amend the paragraph beginning on page 75, at line 4 as shown below:*

**Example 2:**

121 g of a 3-hydroxypropyldimethylsilyl-terminated polydimethylsiloxane having an OH content of 1.25%, 950 mg (5.5 mmol) of 4-hydroxy-TEMPO, 50 ml of saturated sodium bicarbonate solution and 1135 mg (11 mmol) of sodium bromide were cooled to -10°C and 77 g of industrial bleaching liquor (content about 1.9 M[[,]]; pH 9.5 [[was]] established by adding 2 N sulfuric acid) were added rapidly with vigorous stirring and thorough cooling. After about 15 min the phases were separated and the organic phase containing the product was ~~investigated~~ analyzed by NMR spectroscopy. Yield (standard analysis): 95% of Si-bonded 2-formylethyl groups, 5% of unreacted hydroxypropyl groups.